

(19)

Europäisches Patentamt  
European Patent Office  
Office européen des brevets



(11)

**EP 1 072 967 A3**

(12)

**EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
21.11.2001 Bulletin 2001/47

(51) Int Cl.7: **G05B 19/418, G05B 17/02**

(43) Date of publication A2:  
31.01.2001 Bulletin 2001/05

(21) Application number: **00115577.9**

(22) Date of filing: **19.07.2000**

(84) Designated Contracting States:  
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU  
MC NL PT SE**  
Designated Extension States:  
**AL LT LV MK RO SI**

(30) Priority: **29.07.1999 US 363966**

(71) Applicant: **Applied Materials, Inc.**  
**Santa Clara, California 95054 (US)**

(72) Inventors:  
• **Arackaparambil, John**  
**San Carlos, CA 94010 (US)**  
• **Chi, Tom**  
**San Jose, CA 95127 (US)**  
• **Chow, Billy**  
**Menlo Park, CA 94025 (US)**  
• **D'Souza, Patrick M.**  
**Apex, NC 27502-6657 (US)**  
• **Hawkins, Parris**  
**Pleasanton, CA 94566 (US)**  
• **Huang, Charles**  
**Union City, CA 94587 (US)**

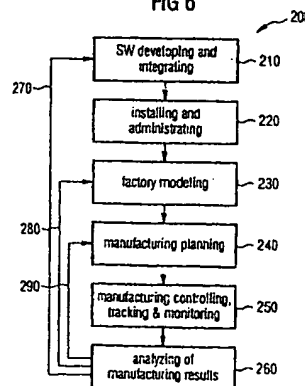
- **Jensen, Jett**  
**Campbell, CA 95008 (US)**
- **Krishnamurthy, Badri N.**  
**Mountain View, CA 94043 (US)**
- **Kulkarni, Pradeep M.**  
**Sunnyvale, CA 94087 (US)**
- **Kulkarni, Prakash M.**  
**Sunnyvale, CA 94086 (US)**
- **Lin, Wen Fong**  
**San Jose, CA 95129 (US)**
- **Mohan, Shantha**  
**Palo Alto, CA 94306 (US)**
- **Nandy, Bishnu**  
**Union City, CA 94587 (US)**
- **Yuan, Huey-Shin**  
**Cupertino, CA 95014 (US)**

(74) Representative:  
**Kirschner, Klaus Dieter, Dipl.-Phys.**  
**Schneiders & Behrendt**  
**Rechtsanwälte - Patentanwälte**  
**Sollner Strasse 38**  
**81479 München (DE)**

(54) **Computer integrated manufacturing techniques**

(57) The present invention provides a novel distributed factory system framework including a novel factory automation lifecycle (200) having lifecycle activities for SW developing and integrating (210), installing and administering (220), factory modeling (230), manufacturing planning (240), manufacturing controlling, monitoring and tracking (250) and analyzing of manufacturing results (260). The factory lifecycle comprises framework components. The distributed factory system framework also includes application components and SW building blocks. The framework components are adapted for managing the application components, while the application components are utilized to provide instructions for managing a process such as a wafer fab. The building blocks are adapted for forming or modifying framework and application components. The distributed factory system framework provides computer implemented

methods for integrating processing systems and facilitates process and equipment changes.

**FIG 6****EP 1 072 967 A3**



European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 00 11 5577

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 5 495 417 A (MIURA KAZUYUKI ET AL) 27 February 1996 (1996-02-27) * column 13, line 41 - column 15, line 35 * * column 39, line 60 - column 47, line 67; figures 1-7, 89-96 *	1, 13, 17, 19-24	G05B19/418 G05B17/02
X	US 5 657 254 A (DUROSS RONALD R ET AL) 12 August 1997 (1997-08-12) * column 4, line 66 - column 7, line 61; figures 1-4 *	15	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			G05B
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 27 September 2001	Examiner Helot, H
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>I : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03.82 (P0401)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 11 5577

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

27-09-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5495417 A	27-02-1996	JP 5266029 A	15-10-1993
		JP 6110894 A	22-04-1994
		JP 5216896 A	27-08-1993
		JP 3140877 B2	05-03-2001
		JP 6252236 A	09-09-1994
		JP 3139867 B2	05-03-2001
		JP 6260380 A	16-09-1994
		JP 6176994 A	24-06-1994
		US 5694325 A	02-12-1997
		JP 5151231 A	18-06-1993
US 5657254 A	12-08-1997	US 5508947 A	16-04-1996
		US 5220517 A	15-06-1993
		CA 2050247 A1	01-03-1992
		CA 2165847 A1	01-03-1992
		CA 2194855 A1	01-03-1992
		US 5329463 A	12-07-1994
		US 5497316 A	05-03-1996

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

Eingegangen

26. Nov. 2001

Schneiders &amp; Behrendt